AMENDED CLAIMS

1. A stator winding in a rotating electric machine comprising a stator (106) provided with radial slots (111) to hold a winding, in layers at different radial distances from the air gap (108) between the rotor (107) and the stator (106), characterized in that the winding is in the form of a cable wherein the part of the cable (101) that passes to and fro once through the stator (106) between different layers forms a coil (113) with an arc-shaped coil end protruding from each end surface (114) of the stator (106), and in that the coils (113) are divided into coil group parts and that all coils (113) in the same coil group part are arranged axially, one outside the other with substantially coinciding centres and with successively increasing diameters, the number of slots (111) that are bridged by the coils (113) successively increasing within the coil group part.

2. A stator winding as claimed in claim 1, characterized in that the coils (113) produce a formation from the air gap (108) towards the stator yoke (115) since, on passing from the first slot to the second, and also upon returning to the first slot, the cable (101) changes position to the next layer immediately outside until a number of positions in the slot have been filled and then passes to the nearest adjacent slot to form coils (113) that lie inside or outside the cable (101) in the other coils (113) included in the coil group part in the same formation.

3. A stator winding as claimed in claim 1, characterized in that all coils (113) in a coil group part are formed in sequence from the cable (101), the cable only subsequently passing to the next following coil group part to produce the latter.

4. A stator winding as claimed in any of claims 1-3, characterized in that the number of coils (113) in the coil group part is three.

5. A stator winding as claimed in any of claims 1-3, characterized in that the number of coils (113) in the coil group parts is four.

12. A rotating electric machine as claimed in claim 10 or claim 11, characterized in that the second layer (105) is arranged in such a manner that it constitutes substantially an equipotential surface surrounding the conductor(s).

13. A rotating electric machine as claimed in claim 12, characterized in that the second layer (105) is connected to a special potential.

14. A rotating electric machine as claimed in claim 13, characterized in that the special potential is earth potential.

15. A machine as claimed in any of claims 10-14, characterized in that at least two of said layers have substantially the same coefficient of thermal expansion.

16. A rotating electric machine as claimed in any of claims 10-15, characterized in that the current-carrying conductor (102) comprises a number of strand parts, only a few of the strand parts not being insulated from each other.

17. A rotating electric machine as claimed in any of claims 10-16, characterized in that each of said three layers is permanently connected to adjacent layers along substantially its entire continuous surface.

18. A rotating electric machine as claimed in claim 9 with magnetic circuit for high voltage wherein the magnetic circuit comprises a magnetic core and a winding, characterized in that the winding consists of a cable comprising one or more current-carrying conductors (102), each conductor consisting of a number of strand parts, an inner semiconducting layer (103) being arranged around each conductor, an insulating layer (104) of permanent insulation being arranged around the semiconducting layer (103), and a semiconducting layer (105) being arranged around the insulating layer.

PCT/SE97/00905

31 -08- 1998

19. A rotating electric machine with magnetic circuit for high voltage as claimed in claim 18, characterized in that the cable is also provided with metal screening and a sheath.

5